Maryland Energy Administration

Powering Maryland's Future

EmPOWER Planning for 2020

June 29, 2012

Agenda

- Introduction
  - Malcolm Woolf, MEA
- Natural Gas Potential Study
  - Dick Spellman, GDS Associates, Inc.
- Combined Heat and Power and End-Use Fuel Switching
  - Kevin Lucas, MEA / Dick Spellman
- EmPOWER Results to Date and Business as Usual Forecast
  - Kevin Lucas
- Next Steps
  - Kevin Lucas

Introduction

- Welcome!
- MEA has a responsibility to
  - Report to Legislature on:
    - Progress to date
    - Whether to extend EmPOWER electric beyond 2015
    - Whether to set targets for natural gas in 2015 and 2020
  - Work in consultation with PSC and other stakeholders
- First step in collaborative stakeholder process
  - Utilities, Suppliers, Environmental Groups, State Agencies

Introduction

- Goals of this meeting
  - Robust discussion amongst stakeholders
  - Education on difference between and interaction of electric efficiency programs and natural gas efficiency programs
  - Planting seeds of thought on whether to extend EmPOWER, and if so, how best to structure future programs
- We are not here today to
  - Decide whether or not to extend EmPOWER
  - Determine exact programs and/or structure for extending beyond 2015

This is the start of a process, not the final step!

Introduction

- Tentative Schedule
  - Stakeholder Meeting – Late June
  - Draft EmPOWER 2020 Report – Late August
    - Incorporates formal and informal feedback from stakeholders
    - Includes options on whether and how to extend EmPOWER programs for electricity and natural gas
  - Feedback from Stakeholders – Early September
    - Formal comments on Draft Plan requested
  - Final EmPOWER 2020 Report – Mid November
    - Incorporates feedback from stakeholders on Draft Report options
    - Includes recommendations on how to proceed

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CHP and End-Use Fuel Switching

- End use applications, not power plant applications
  - This is ***not*** re-firing coal plants with natural gas
- Technical/economic potential being researched by GDS
  - Fuel Switching focus on residential and commercial sectors
    - Space Heating / Water Heating / Clothes Dryers
  - CHP focus on commercial, industrial, and institutional sectors
  - Report in late August
- Some CHP has been already been approved as part of EmPOWER
  - Roughly $20m to develop 40 MW and 146,000 MWh of savings by the end of 2014

CHP and End-Use Fuel Switching

- Differing infrastructure challenges
  - Mains to neighborhood but not streets
  - Lines to street but not houses
  - Connection to houses but no internal gas piping
- Programs will impact usage and demand for both natural gas and electricity
  - All else equal, programs will increase natural gas use and reduce electricity use
  - Are electricity demand and energy displaced at the same rates?
  - How would this impact firm vs. interruptible service?
  - How would this impact natural gas targets (if set)?

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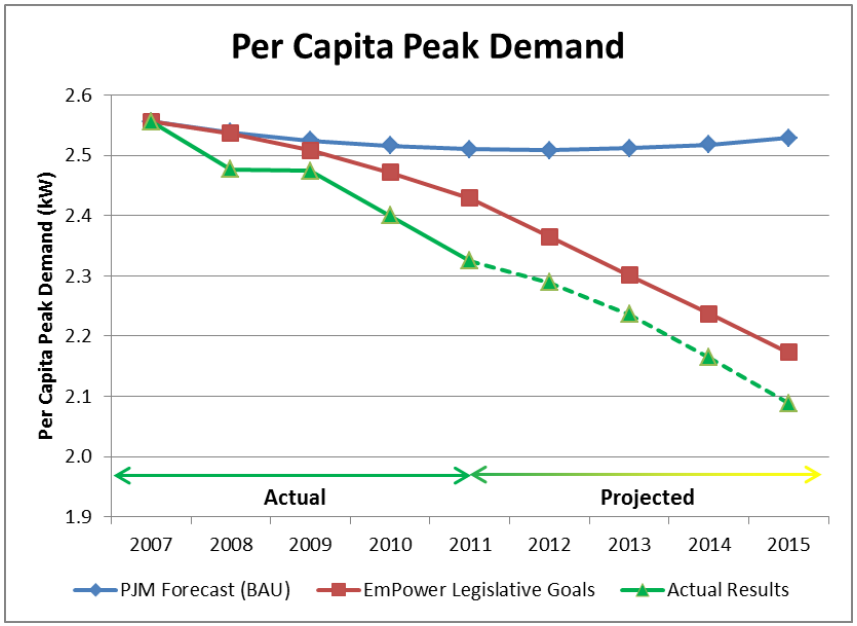
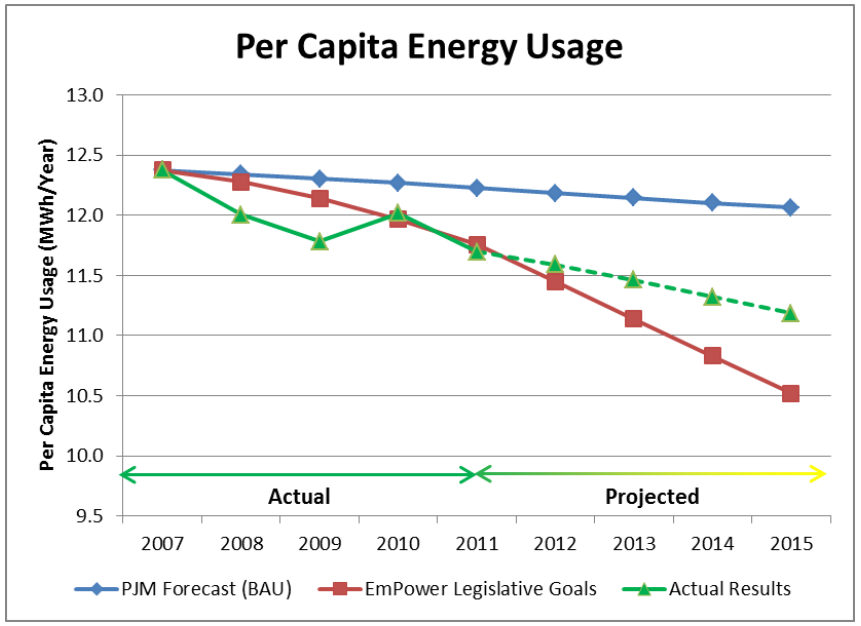
Top-Down Results

- Actual results from 2007-2011
- Projected results from 2012-2015 based on proposed programs
- External factors (economy, weather) can heavily influence results
  - Peak Demand is weather normalized, but Energy Usage is not

Top-Down Results



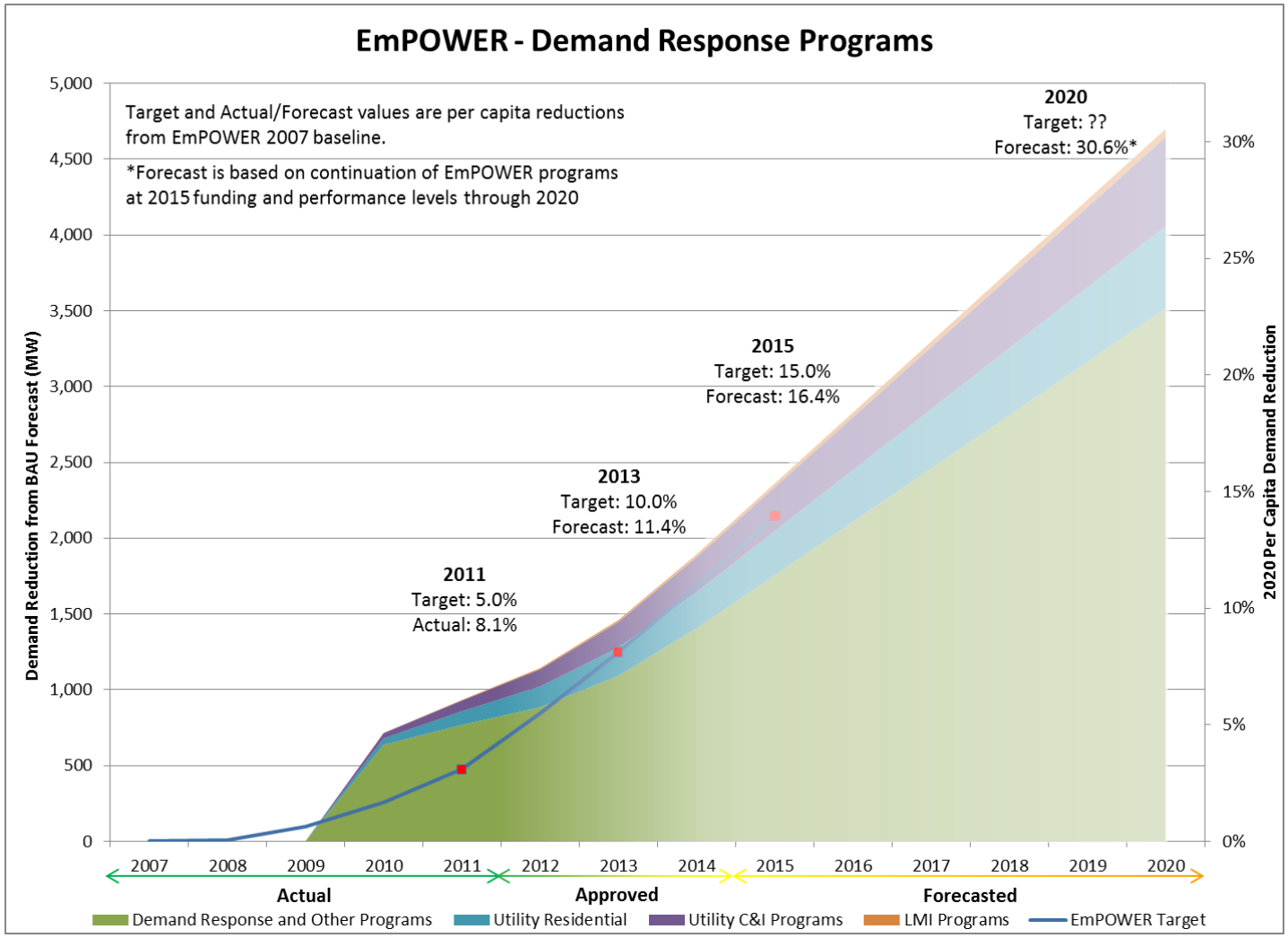


Economic downturn and weather helped meet 2007-2011 energy usage targets, but currently proposed programs cannot keep pace.

Bottom-Up Results and Forecast

- Results
  - Starts with BAU forecast and subtracts verified savings from 2007-2011 and projected savings from 2012-2015
  - Isolates actual program performance from exogenous influences
  - Does not include CSP programs with C&I sectors
- Forecast
  - Extended to 2020 based on 2015 program performance and participation levels
    - Saturation in certain programs (i.e. residential AC switches)
    - New programs needed to continue progress (i.e. dynamic pricing)

Bottom-Up Results: Demand Response



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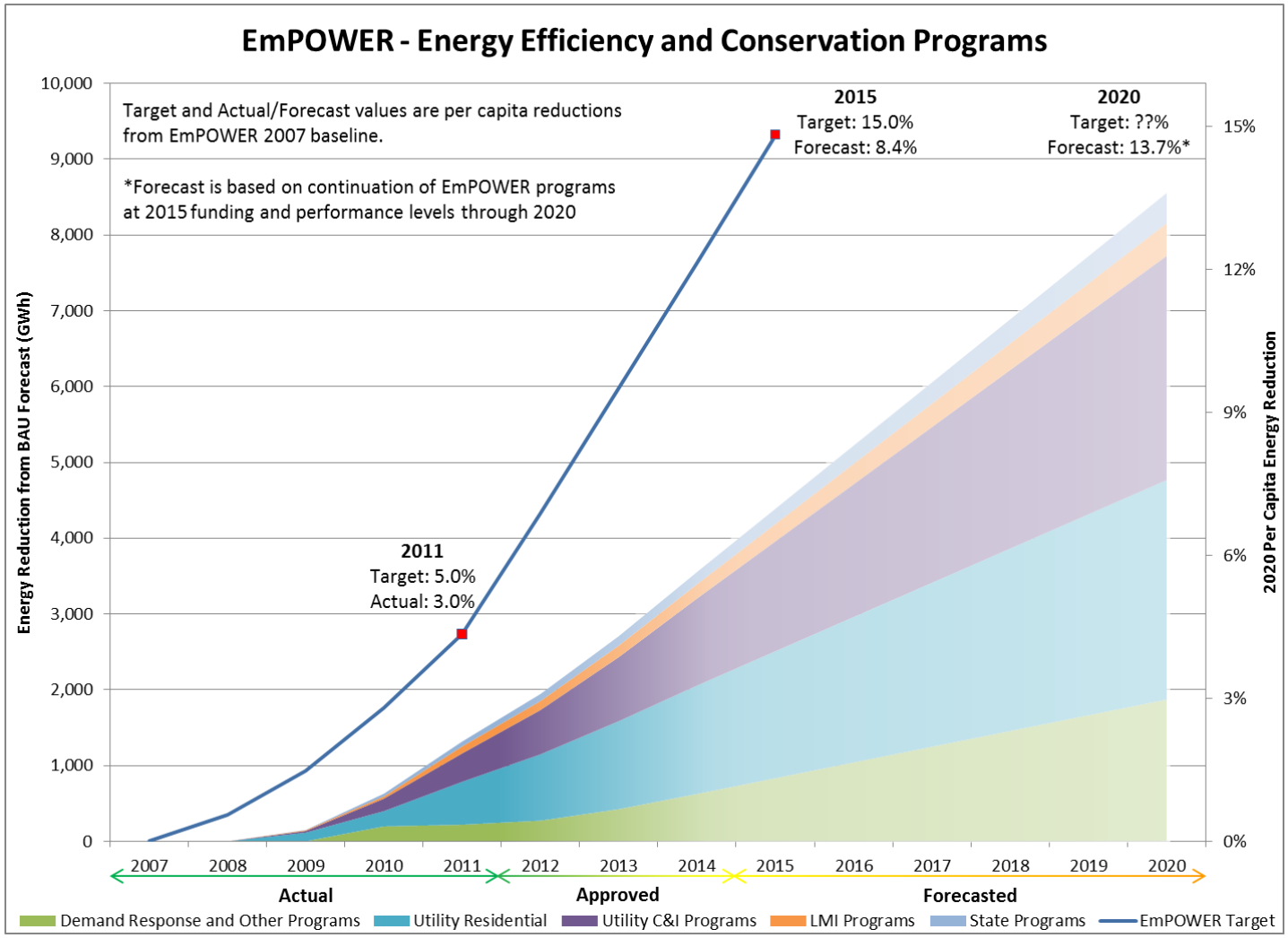
Powering Maryland's Future

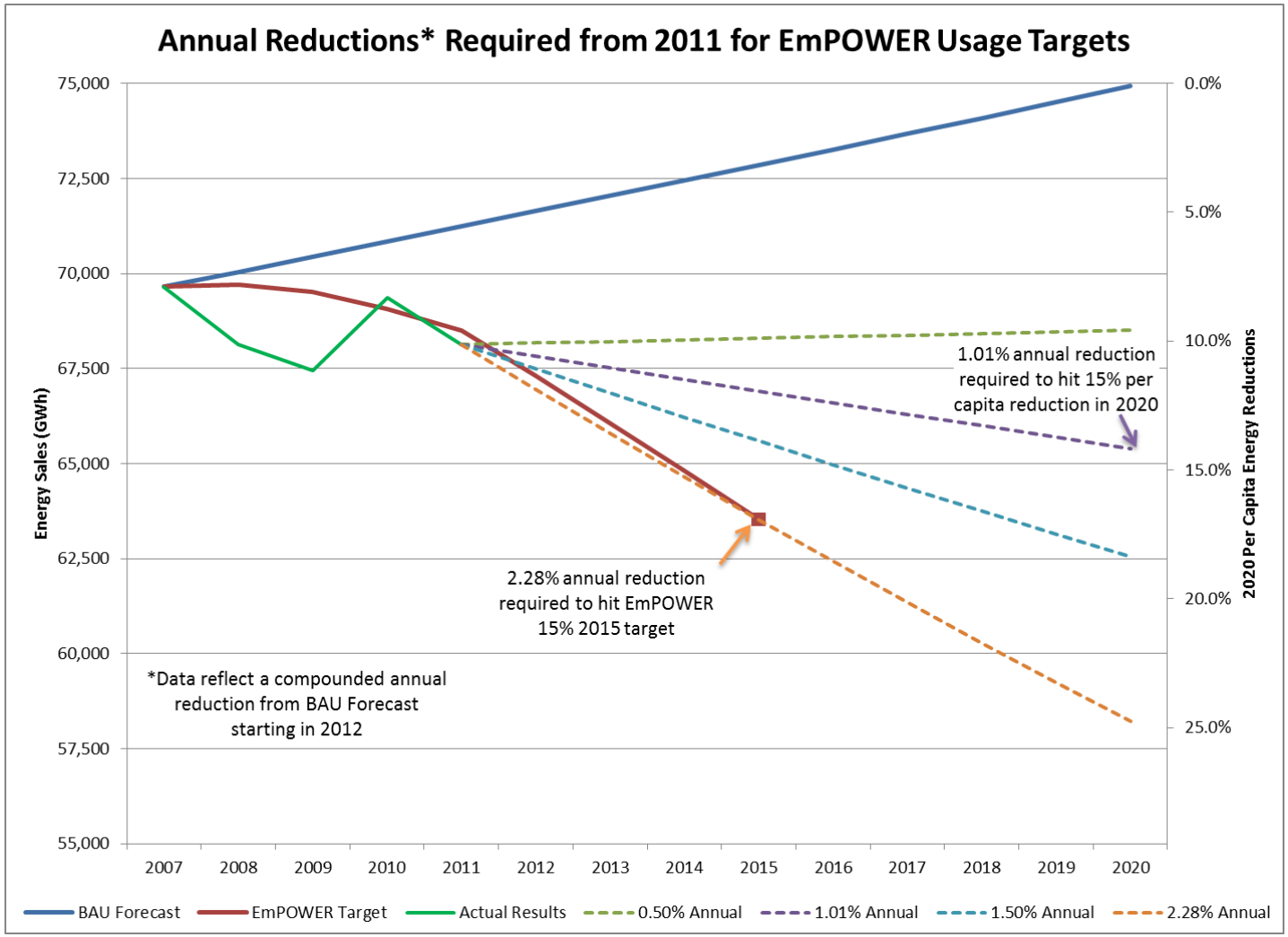
Bottom-Up Results: Energy Usage



Annual Reductions

- Starting from 2011 results, what annual reductions are needed to hit certain targets?
- Given certain annual reductions, where are we in 2015? In 2020?

Annual Reduction Results



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Things to Think About

- What has been working well with EmPOWER? What has not?
  - Assume that all program parameters are up for debate beyond 2015
- Should EmPOWER be extended beyond 2015? Should natural gas targets be set?
  - If not, why not?
  - If so, how should the targets be set?
    - Per Capita?
    - % of sales?
    - All cost effective programs?
- What is the interplay between natural gas programs and electricity programs?

Next Steps

- Feedback Requested
  - Your feedback is needed to help shape the Draft Report
  - Comments can be formal or informal, but should be constructive and informative
    - If you have concerns, also think about potential solutions
    - Consider how to apply lessons from current programs to future ones
  - Requested by July 31, 2012
    - Please email to MEA in PDF format
    - MEA will post all documentation and replies on our website

Thank You!

Questions?

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